

### ABSTRACT

Methods and apparatus are disclosed for distributed resequencing of packets belonging to an original stream of packets in a computer or communications system, such as in a packet switching or other communications or computer system. Typically, packets of the original stream are marked with a sequence number, timestamp, or other ordering indication, and distributed among and sent over several different paths through a system or across network with these packets arriving at a location possibly out of their original sequence. These packets are received at the location by multiple resequencing components which communicate and coordinate actions among themselves. The resequencing components distribute information as to received packets and coordinate the sending of packets from themselves so as to produce a stream of resequenced packets. In one implementation, each of the multiple resequencing components maintains one or more data structures indicating packets stored locally and those packets stored anywhere (or elsewhere) within the multiple resequencing components. When a next packet in the original sequence has been received, the packet is sent out. In this manner, these multiple resequencing components coordinate the timing of multiplexing the actual packets over an output link so as to regenerate the packets according to their original ordering.